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ABSTRACT

Stories were read to 62 male third grade children from two elementary schools in Urbana, Illinois. They were randomly assigned to one of four story conditions: vicarious role playing, symbolic modeling, a combination of the two, and a control condition. The basis of the present experiment is the assumption that vicarious role playing is similar to the process whereby one identifies with or takes the role of the major character in a story. The effects of stories designed to induce modeling and vicarious role playing were assessed both separately and in combination. The basic story concerned a family of duck hunters that magically changes places with a family of wild birds and are subsequently hunted by their former prey. The behavioral effects of hearing the stories were assessed immediately afterward, and the attitudinal effects were surveyed six weeks later. Both measures showed internal consistency. As evidence for the validity of the measures, it was demonstrated that: (1) the behavioral measure discriminated boys with hunting fathers from boys with non-hunting fathers, and (2) both measures successfully discriminated male from additional female respondents. Despite the evidence for their validity and reliability, neither the behavioral nor the attitudinal measure was affected by the experimental stories. The results of this experiment provide no evidence that exposure to children's literature has any immediate behavioral or long term attitudinal effects on children. (Author/AM)

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(Abstract)

Stories were read to a sample of male third grade children randomly divided into four conditions. The effects of stories designed to induce modeling and vicarious role playing were assessed both separately and in combination. The basic story concerned a family of duck hunters that magically changes places with a family of wild birds and are subsequently hunted by their former prey. The behavioral effects of hearing the stories were assessed immediately afterward, and the attitudinal effects were surveyed six weeks later. Both measures showed satisfactory internal consistency. As evidence for the validity of the measures, it was demonstrated: (1) that the behavioral measure discriminated boys with hunting fathers from boys with non-hunting fathers, and (2) that both measures successfully discriminated male from additional female respondents. Despite the evidence for their reliability and validity, neither the behavioral nor the attitudinal measure was affected by the experimental stories.

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The Effects of Children's Stories on Behavior and Attitudes: Modeling and Vicarious Role Playing[1]

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Telling stories to young children is probably one of the oldest and most universal methods of teaching cultural values. In the United States, moral character development has been a prevalent theme of 19th and 20th century educational philosophy (Zaccaria and Moses, 1968), and children's literature has been an important medium for the dissemination of these moral lessons. The belief that such literary lessons do influence children's behavior is still commonly held, but few empirical studies have ever tested that assumption (Kimmel, 1970).

Much of the evidence for the effectiveness of literature as a molder of character comes from studies attempting to reduce racial prejudice. Typical of such experiments is one by Jackson (1944) in which one group of junior high school students read a story favorable toward Blacks and another group read nothing. Using a pre-post design, she found a small but significant favorable shift in attitudes immediately following the story but no differences after two weeks. Several other studies have obtained positive effects using similar designs with a series of stories but without pursuing possible long term effects. Among these, one studied the influence on the attitudes of third grade children of reading literature favorable and unfavorable toward Eskimos (Tauran, 1967). Another studied the response of fifth grade children to six stories favorable to Indians

(Fisher, 1968). And a third compared for three months the effect of using readers depicting multiethnic or all-white characters on the attitudes of white second graders toward Blacks (Litcher and Johnson, 1969).

In contrast to these, other investigators report no effects from such manipulations. For example one early study looked at the influence of fables on moral development (Goldsmith, 1939). In a pre-post design, children heard each fable, reproduced it orally, stated its moral, related personal experiences similar to the fable situation, and upon completion of 25 fables answered a series of relevant multiple choice and true-false questions. Notably, their responses to these items were unaffected by having heard the fables. Another experiment, using fourth, fifth, and sixth graders, found no evidence that students' concepts of sportsmanship were affected even after exposure to 12 short stories (Bovyer, 1962).

The studies reviewed here present a mixed picture of the effectiveness of children's literature as an agent of attitude and behavior change. In addition, those that have found positive effects provide few clues to the processes at work. Hence the present experiment was designed to pose the basic question once again, and, more specifically, to study the function of two processes that seem likely to be effective--symbolic modeling and vicarious role playing.

The term "symbolic modeling" refers to the imitation of models presented in symbolic rather than live form. Ample evidence exists that filmed models can influence behavior. Bandura has demonstrated that children will imitate the aggressive responses of filmed models whether they appear in human or cartoon form (Bandura, Ross, & Ross, 1963). Lövaas (1961) has also studied the effect of aggressive cartoon characters on children's behavior. His subjects were presented with two levers, one activating a hitting doll and the other causing a ball to rise in a cage-like structure. Children who were exposed to the aggressive cartoon

gave a greater proportion of responses to the lever operating the hitting doll than those who saw a non-aggressive movie. Later, using the same technique Larder (1962) also found more aggressive choices after presenting children with aggressive stories by means of a tape recorder. In the present study some versions of the experimental story involve symbolic modeling in that the characters model the behaviors and attitudes to be changed.

The term "role playing" usually refers to the enactment of the role of another person under simulated rather than real conditions. Mann and Janis (1968) have demonstrated the effectiveness of role playing a cancer victim as a means of reducing smoking, and Clore and Jeffery (1972) successfully used the experience of role playing a disabled person to change opinions on issues concerning the disabled. In both of these studies, witnessing someone else's role enactment (vicarious role playing) was as effective or nearly as effective as playing the role oneself.

The basis of the present experiment is the assumption that vicarious role playing is similar to the process whereby one identifies with or takes the role of the major character in a story. Some versions of the experimental story encourage the reader to take the standpoint of certain characters and see the events of the story from their point of view. The listeners do not literally enact the roles of the characters in question, but they do play the roles at a fantasy level.

The effects of role playing and modeling were assessed both separately and in combination. The story consisted of adaptations from Roald Dahl's (1966) The magic finger, which contains engaging and dramatic sections some of which clearly employ modeling and others that should induce vicarious role playing. The story concerns a young girl with a magic finger who transforms her duck-hunting

neighbors into birds. At the same time she transforms a family of wild ducks into humans who subsequently occupy the neighbors' house while the neighbors watch from a nest in a nearby tree. In the course of the story the new residents of the house decide to go bird hunting, and the transformed neighbors are dramatically confronted with the error of their former ways. Once they learn their lesson, the magic is undone, and the role playing portion of the story is complete. However, Dahl's story continues, and in the final portion the now enlightened neighbors display their commitment to preserving wild birds in a variety of ways. This section was used as the basis of the modeling treatment.

Pilot Study

Before conducting the major experiment a pilot study was run. The data were obtained from 28 males and 22 females attending the first through the fifth grades at an elementary school in Paris, Illinois. Two experimental versions of The magic finger (Dahl, 1966) were compared to a neutral control story, and the effects were assessed on the same five-item behavioral measure used in the major study. Significant sex effects ($F = 35.88$, $df = 1/44$, $p < .01$) emerged, females giving fewer aggressive and pro-hunting responses than males, but there was no story effect and no interaction. However, inspection of the data for males showed a notable trend in the predicted direction. For this reason males were used in the present study. Also, since age effects were found for some items in the pilot data, age was held constant in the experiment to be reported.

Method

Subjects

The subjects for the study were 62 third-grade boys from two elementary schools in Urbana, Illinois. They were randomly assigned to one of four story conditions -- vicarious role playing, symbolic modeling, a combination of the two, or a control condition.

Procedure

As a precaution against various experimenter influences, an effort was made to dissociate the treatment and assessment sessions. Subjects were told by their regular classroom teachers that they had been selected to assist some visitors at their school who were trying to learn what kinds of toys boys prefer. They were further instructed that the school librarian was assisting the visitors and would call for the boys in small groups.

The librarian escorted each group to the school library where she again instructed them that they would be assisting some visitors who were studying toy preferences. After leaving the library, presumably to ask if the visitors were ready, she returned to inform the boys that they were not yet prepared. She then volunteered to read a short story while they waited.

The Role Playing and Modeling groups were each read versions of The magic finger slightly rewritten to emphasize the role reversal and modeling portions respectively, while the Combined group heard both portions. The Control group heard a neutral story, Sylvester and the magic pebble (Steig, 1969), which had minor sections added so that the words "wild ducks" and "duck hunting" occurred an equal number of times as in The magic finger. These alterations were designed to control for the effects of mere exposure to ducks as characters in the story.

To increase the children's involvement in the story-telling session, the librarian illustrated the story by holding up several 8x10 glossy photographs made from illustrations in the original books.

Following the story the librarian again left the library and upon returning indicated that the visitors were now ready. The subjects were then taken to a separate room where the behavior measure -- actually four behavioral items and one verbal item -- was administered to them individually.

Upon entering the room each subject was again instructed that the visitor wanted help in selecting toys. At each of four stations the child was administered a behavioral item involving a dichotomous choice. These were followed by a fifth, free response verbal item. The items were administered by three examiners, all of whom were blind to which story the child had heard.

Behavioral Measure

The behavioral measure is described below, with the biserial correlations between each item and the sum of the other four items in parentheses.

1. Choice of targets to use in playing darts. (r = .37, $p < .001$)
   a. A target with a bull's-eye b. A target with a picture of a mallard duck
2. Choice of a picture to color. (r = .61, $p < .001$)
   a. A child feeding a duck b. A hunter shooting a duck
3. Choice of an implement to use in playing with a target (r = .47, $p < .001$)
   a. Beanbags b. An airrifle
4. Choice of a target to use with a toy rifle. (r = .44, $p < .001$)
   a. Skeet target b. A live mallard duck (in a cage)
5. Subject was handed the toy rifle and asked what he would do with a real gun if his parents gave him one. (r = .56, $p < .001$)

The four behavioral items are shown in Fig. 1. After the final item each subject was interviewed to determine whether he had understood the moral point of the

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Insert Fig. 1 about here

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story and whether the implied demands of the experimental situation had influenced his performance. He was also asked if his father hunted. Finally, he was thanked, given a candy bar, and instructed to return to his classroom, a procedure which ensured that he would not communicate with waiting subjects.

The responses to the behavioral items were scored by assigning a score of 1 to the nonaggressive alternative (a) and assigning a score of 0 to the aggressive alternative (b). Responses to the fifth item, a verbal measure, were content analyzed and scored for aggressiveness on a 1 to 4 scale by two independent judges (inter-rater reliability $r = .98$). This scale was then dichotomized to correspond to the behavioral items. A total score was calculated by summing across responses to all five tasks. The internal consistency of this combined measure was satisfactory (KR-20, $r = .73$).

Attitude Follow-up

Six weeks later attitudes toward hunting ducks were measured by means of a 17-item Likert scale administered in the classroom by the subjects' regular teachers. The scale was taken from a pool of 21 five-point items administered to 24 other third and fourth grade boys from the same schools. An item analysis yielded 17 items with a mean item-total correlation of $r = .70$ ranging from $r = .52$ to $r = .88$ ($p = .01$ for $r = .50$). The split-half reliability of the 17-item version was $r = .96$.

Some sample items are:

I think it is all right for people to hunt ducks.

Hunting ducks would be fun.

Hunters should only shoot at targets.

Results

Behavioral Measure

Since subjects were drawn from two schools, a 2 (school) x 4 (story) analysis of variance was performed. The analysis produced a school effect ($F = 7.27$, $df = 1/54$, $p = .009$) and a significant interaction between story condition and school ($F = 4.04$, $df = 3/54$, $p = .01$).

A second two way analysis of variance using story condition as one variable and whether or not the subject's father was a hunter as the other was also computed. This analysis revealed a significant hunting effect ($F = 10.35$, $df = 1/51$, $p = .002$). Children who reported that their fathers hunted responded more aggressively ($M = 1.37$) than those whose fathers were not hunters ($M = 2.74$).

Since both school and father hunting were significant variables and since they were not evenly distributed across conditions, a subsequent one way analysis of covariance was performed with these variables as covariates. As seen in Table 1, the adjusted means of the story conditions show a trend in the predicted direction, but the differences were not significant ($F < 1$).

Insert Table 1 about here

The degree of discrimination of each of the items on the behavioral measure was determined by Chi-square tests. With a value of 7.81 being significant at the .05 level, the values for the five items were: 1.62, 7.74, 0.37, 6.83, and 2.93.

While none of the values was significant, the picture measure (7.74) and the live duck vs skeet target measure (6.83) appeared to discriminate the groups best.

Attitude Follow-up

For the attitude follow-up data, two analyses of variance were performed identical to those reported for the behavioral post measure. No significant effects were found for school, hunting, or story condition or their interactions. The largest effect was due to the child's report of whether his father hunted or not ($p = .14$). The means and cell frequencies are shown in Table 2. Only four of the original subjects were missing on the day the follow-up data were collected.

Insert Table 2 about here

Finally, three correlations were computed relating father hunting and scores on the behavioral post measure ($r = .43$, $p < .01$), father hunting and scores on the follow-up attitude scale ($r = .23$, $p < .10$), and between scores on the behavioral post measure and the follow-up attitude scale given six weeks later ($r = .31$, $p < .01$).

Discussion

The experiment reported here is distinct from earlier work on children's literature in that it assessed the effects of story content on behavior as well as attitudes. There have been some other behavioral investigations of literature, including studies of folk tales (Whiting & Child, 1953) and children's readers (De Charms & Moeller, 1962), but in that work the content of the literature was studied as a cross-cultural index of the preoccupations of the culture that produced it. By contrast, in this experiment the content of a children's story was manipulated in order to observe children's behavior after hearing it. The assumption that exposure to moral lessons in fiction is a useful socialization technique seems to have motivated children's writers at least as far back as Grimm's fairy tales. Hence the purpose of the experiment was to test the time-honored belief that behavioral lessons can be effectively taught by such literary dramatization.

Despite the longevity and universality of this hypothesis, however, the results of the experiment provide no evidence that exposure to children's literature has any immediate behavioral or long term attitudinal effects on children. Of course the failure to reject a null hypothesis should be viewed cautiously because such results are as likely to reflect sloppy experimentation as they are to mirror reality. Consequently, before placing much faith in the conclusion that the stories were ineffective, several rival hypotheses need to be considered. For example, the stories would not be expected to be effective if the subjects did not understand them in the first place. Post-experimental interviews with each subject, however, disclosed that all but one or two children could verbalize the moral message of the story. It is also possible that something about the particular story used or the way it was presented could have been responsible for the absence of

effects, but such an inhibiting factor seems unlikely to have been present in all three experimental versions of the story and in the manner of presentation of both storytellers. In addition, the administration of the behavioral measure also involved three separate people, all of whom were kept unaware of which story the child had heard. Hence, the hypothesis that the results were due to bias on the part of the experimenters is unlikely as well.

The most serious rival hypothesis is that the stories appeared to have no effect simply because the measures were unreliable or, if reliable, were irrelevant to the kinds of effects the stories might reasonably be expected to have. On the contrary, however, not only were both behavioral and attitudinal consequences assessed, but the internal consistency of each measure was found to be satisfactorily high (r's = .73, .96). One item in the behavioral measure was open-ended and did require human judgment to score, but again the interjudge reliability of the scores for two independent judges was quite high (r = .98).

The results also provided evidence of validity. The measures were intended to tap individual differences in children's behavior and attitudes toward hunting, the focal point of the story's moral message. One would expect boys to be somewhat more attracted to this activity than girls, and in the pilot study when children of both sexes served as subjects the behavioral measure did discriminate males from females significantly. The attitude measure, although it was not used in the pilot study, was administered to entire classes in the major study, and therefore data for both males and females was available. An analysis of responses to the attitude questionnaire showed that it also successfully differentiated subjects according to sex (t = 3.55, df = 108, $p < .001$).

A second line of evidence relevant to the validity of the measures was collected by asking subjects whether their fathers were hunters or not. One might

expect that subjects with fathers that hunt would have more positive dispositions toward hunting than those with non-hunting fathers. This information was collected in the main study, and the behavioral measure significantly discriminated boys reporting that their fathers were hunters from those who said they were not. Although this hunting versus non-hunting variable accounted for 18% of the variance in the behavioral measure, it did not have a significant effect on the attitude follow-up. The fact that the children's behavior was more influenced by the behavior of their fathers than by a story heard at school underscores the truth in the common sense notion that the most potent socialization agents are parents rather than schools.

In view of the cherished nature of our assumptions about the beneficial effects of exposing children to good literature, the consistent absence of such effects under the conditions of this experiment is of more than passing interest. There is, of course, no way to establish that children's literature has no effect at all on the children exposed to it, nor is that the intent of the present study. A single experiment of necessity deals with only some stories and only some of the many possible consequences. It seems quite likely that many children's stories do have an impact on the children who hear them. Evidence from the research literature on modeling certainly suggests that symbolically presented models ought to have an influence on behavior (Bandura, 1969). Nevertheless the failure to discover such effects when absorbing role reversal sequences were involved and when the characters in the story specifically modeled some of the scored responses suggests that our everyday notions about such socialization processes are in need of further empirical test. This conclusion is strengthened by the negative evidence obtained in some previous research (Bovyer, 1962; Goldsmith, 1939).

It might be useful for further studies to develop a longer and more highly refined behavioral measure and to look at the effects of more than one reading of the experimental stories. In addition, exposure to a story presented in a more dramatic medium might yield more dramatic consequences. For example, actually witnessing the destruction of Bambi's forest home in the Walt Disney film would probably have more impact than simply hearing that story read. Nevertheless, future investigators who obtain negative evidence can make the strongest case for the validity of their evidence by adding what might be called a Maximum Effect control group. Subjects in this group should be told the moral lesson of the story and instructed to make their responses to the measures consistent with the moral. Such a control group would allow an assessment of the maximum effect the measures could be expected to detect given full understanding and adequate motivation on the part of the subjects. Under those conditions, if the experimental stories appear ineffective, the difficulty may be isolated more exactly. For example, a failure of the Maximum Effect group to differ from the usual no effect Control group would indicate inadequate measurement, while significant differences between these groups would reflect the inadequacy of the stories as effective agents of change.

Footnotes

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TABLE 1

Adjusted Means from the Analysis of Covariance of the Behavioral Post Measure and Cell Frequencies (in parentheses) for the four Story Conditions

Combination	Role Playing	Modeling	Control
2.50 (16)	2.33 (15)	2.27 (14)	1.85 (13)

TABLE 2

Means and Cell Frequencies (in parentheses) from the Attitude Follow-up Measure for Story Conditions and Whether the Father Hunts (high scores are unfavorable toward hunting)

	Combination	Role Playing	Modeling	Control	
Father Hunts	65.33 (3)	54.71 (7)	54.83 (6)	51.40 (5)	56.57 (21)
Father Does Not Hunt	59.62 (13)	68.38 (8)	62.00 (8)	60.38 (8)	62.59 (37)
	62.47 (16)	61.54 (15)	58.42 (14)	55.89 (13)	

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